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Portable CO₂ detectors

Sir

We read with interest the equipment review of the MiniCAP III CO₂ Detector (*Archives of Emergency Medicine*, 1992, 9, 373–376). We have had considerable experience in the use of this and similar portable CO₂ detectors in the pre-hospital care of patients and can confirm its value. Road traffic accidents, particularly those where the patient requires extrication from wreckage are frequently extremely noisy. It is not always possible to assess accurately correct positioning of an endotracheal tube using auscultation alone. It is our practice to use a portable CO₂ monitor in concert with a pulse oximeter in these difficult field conditions.

We also agree that an alarm, which may indicate that an endotracheal tube has become misplaced or disconnected, is invaluable in the often fast and bumpy ride between the accident scene and hospital. The audible alarm on such devices enables the practitioner to concentrate on other life threatening injuries to the same, or perhaps other patients, secure in the knowledge that should the endotracheal tube become dislodged, or the patient deteriorate, then he will be warned immediately.

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The effect of the Cornwall and Isles of Scilly helicopter ambulance unit on the ambulance services ability to deliver acutely traumatized patients to hospital

Sir

There can be no doubt that in order to give helicopter ambulances a proper clinical audit there is a need for a prospective study. The paper by Rouse (1992) has no new messages, particularly as 14 out of the 17 cases involving the deployment of a

helicopter were for secondary missions, the helicopter being deployed after the land ambulance had arrived at the scene.

It is clear from the work with the West Midlands that the best effective deployment of an air ambulance is as a primary resource replacing a land-based ambulance resource. The only absolute measure of evaluating the emergency response care provided by the ambulance service will be a clearly demonstrated reduction in morbidity and mortality and this can only be shown with reference to formal trauma scoring in particular TRISS methodology.

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Management of the moribund carbon monoxide victim

Sir

We write in response to your interesting article on the management of the moribund carbon monoxide (CO) victim (Thomson *et al.*, 1992). There is no hyperbaric unit in South East Queensland, the closest unit being in Townsville Hospital, a distance of 1600 km north of Brisbane by air. We are frequently faced with patients requiring hyperbaric oxygen therapy (HBO) for CO poisoning, and as the accident and emergency (A&E) consultants who staff the aero-medical retrieval rota, we are responsible for their inter-hospital transfer. We wish to make two observations.

Hyperbaric oxygen therapy is mandatory for significant CO poisoning (Meredith & Vale, 1988; Gorman & Runciman, 1991). However, what is the most reliable marker of severe CO poisoning, and what regime of HBO therapy is most effective is unclear from the literature (Gorman *et al.*, 1992). It seems likely that two or more HBO treatments administered without delay offer the best outcome. Even patients treated with 100% oxygen by face mask, but no HBO, are subject to significant neuropsychiatric sequelae, including dementia, psychosis, Parkinsonism, personality changes and almost every other known neurological syndrome (Myers *et al.*, 1985; Norkool & Kirkpatrick, 1985). Despite the logistical problems inherent in long transfers, the consequences of non-treatment may be so catastrophic that distance is *never* an appropriate reason for preventing access to HBO therapy, should such treatment be indicated.

Secondly, we agree with the authors that this patient's management could have been improved with muscle paralysis and endotracheal intubation. The single most important factor governing outcome in inter-hospital transfers is pristine management of the airway. In this case, the indication for aggressive airway